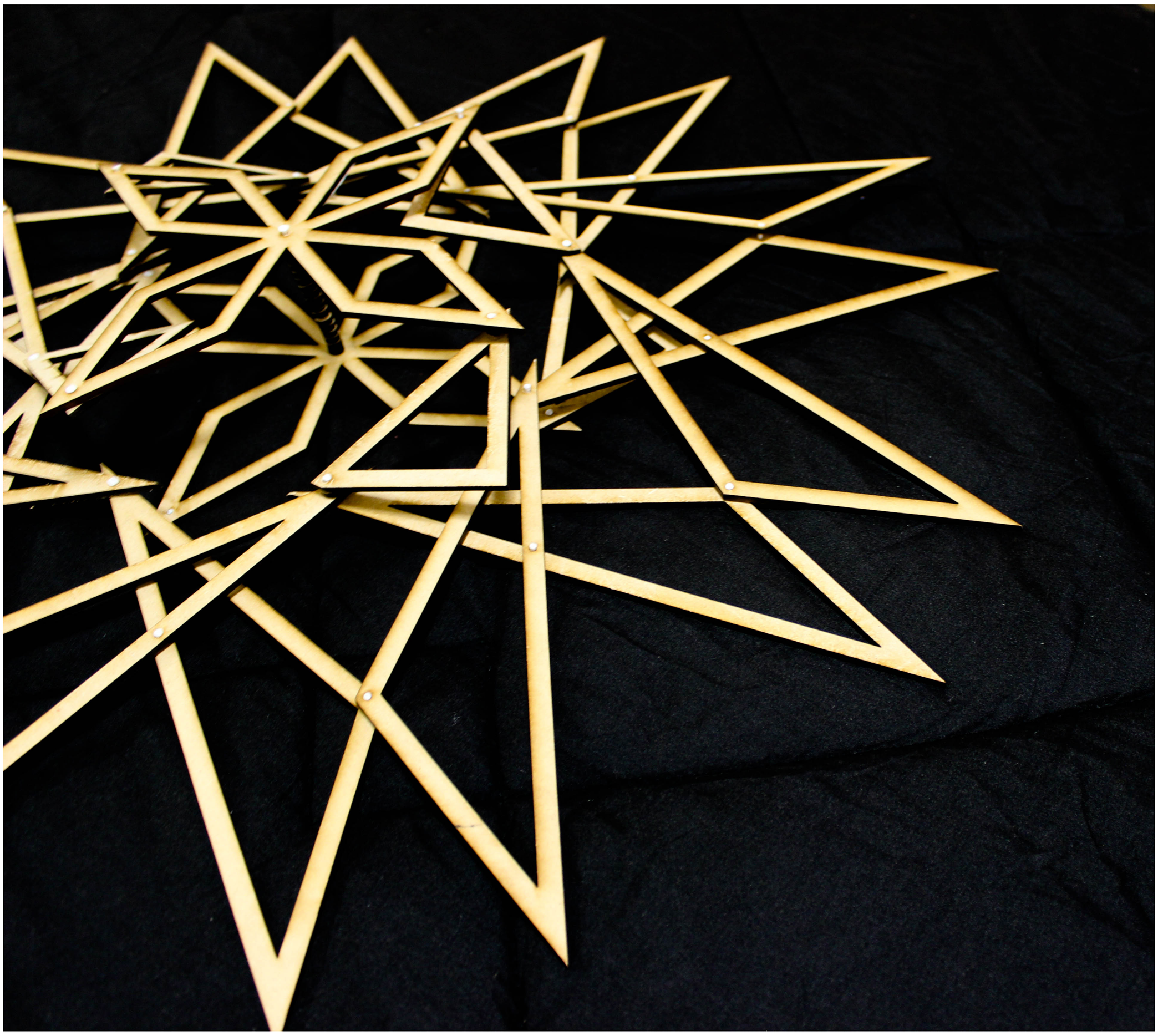

Motion Structures

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Ever wondered what kind of mechanism makes an umbrella open and close? Or a satellite when it is deployed into outer space? As a graduate architecture student, the concept of motion structures has inspired me. In the first semester, I had the opportunity to design a deployable ring with eight sides using angulated members. This structure is created in different layers such that members move in different planes without interfering with the path of other members, thus creating a smooth circular path for the structure to deploy. The motion can be centrally controlled thus allowing radial motion. This image shows a semi deployed state waiting for a user to deploy it to its full state. Working on this model has enhanced my interest to research more on the applications of deployable structures in outer space. Currently, I am working on the research and design of lightweight and self-deployable habitats for Lunar and Martian missions.